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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/126,897	07/31/1998	JEAN-PIERRE WEBER	003250-198	9422

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[REDACTED] EXAMINER

BURD, KEVIN MICHAEL

[REDACTED] ART UNIT

[REDACTED] PAPER NUMBER

2631

DATE MAILED: 12/18/2001

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No. 09/126,897	Applicant(s) WEBER ET AL
Examiner Kevin M. Burd	Art Unit 2631

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on Dec 14, 1999

2a) This action is FINAL. 2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-27 is/are pending in the application.

4a) Of the above, claim(s) _____ is/are withdrawn from consideration.

5) Claim(s) _____ is/are allowed.

6) Claim(s) 1-27 is/are rejected.

7) Claim(s) _____ is/are objected to.

8) Claims _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on _____ is/are objected to by the Examiner.

11) The proposed drawing correction filed on _____ is: a) approved b) disapproved.

12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

13) Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

a) All b) Some* c) None of:

1. Certified copies of the priority documents have been received.

2. Certified copies of the priority documents have been received in Application No. _____.

3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*See the attached detailed Office action for a list of the certified copies not received.

14) Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

15) Notice of References Cited (PTO-892)

18) Interview Summary (PTO-413) Paper No(s). _____

16) Notice of Draftsperson's Patent Drawing Review (PTO-948)

19) Notice of Informal Patent Application (PTO-152)

17) Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____

20) Other: _____

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DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1 and 2 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 1, the statement "which operations are substantially inverse to those recited above" is vague and indefinite. It is unclear what "substantially" is meant to include. Claim 2 is rejected due to dependence on claim 1.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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4. Claims 1, 9, 10, 11, 14, 15 and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by Standard Telephones and Cables Public Limited Company (GB 2 125 253).

Regarding claims 1, 9, 11, 14 and 17, Standard Telephones and Cables Public Limited Company [Standard] discloses a method of transferring an electrical signal from a first terminal on an optical fiber to a second terminal. An electrical signal is spread using CDMA (column 1, lines 37-50). The modulation technique used is sometimes called pseudo-noise modulation at the transmitter a modulated RF carrier is used (column 1, lines 51-62). The physical transmission path is an optical fiber and the signal is transmitted on this optical fiber (column 3, lines 9-11). At the receiver, the incoming RF signal is passed through an identical balance modulator driven from an identical code generator (column 2, lines 79-93). Prior to the demodulation step, the optical signal will be converted back to an electrical signal so the demodulation can take place. The step of demodulation, demodulates the signal and despreads the signal to recover the original electrical signal in the receiver.

Regarding claims 10 and 15, the frequency used to modulate the signal is a high frequency since the frequency is in the RF range.

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Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Standard Telephones and Cables Public Limited Company (GB 2 125 253) in view of Pepper et al (US 5,909,279).

Regarding claim 3, Standard Telephones and Cables Public Limited Company [Standard] discloses a method of transferring an electrical signal from a first terminal on an optical fiber to a second terminal. An electrical signal is spread using CDMA (column 1, lines 37-50). The modulation technique used is sometimes called pseudo-noise modulation at the transmitter a modulated RF carrier is used (column 1, lines 51-62). The physical transmission path is an optical fiber and the signal is transmitted on this optical fiber (column 3, lines 9-11). At the receiver, the incoming RF signal is passed through an identical balance modulator driven from an identical code generator (column 2, lines 79-93). Prior to the demodulation step, the optical signal will be converted back to an electrical signal so the demodulation can take place. The step of demodulation, demodulates the signal and despreads the signal to recover the original electrical signal in the receiver.

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Standard does not disclose using the modulated carrier signal for modulating a monochromatic light wave to be transmitted on the optical fiber. Peppers discloses using white light in optical fibers. It would have been obvious for one of ordinary skill in the art at the time of the invention to use white or monochromatic light in optical fibers since they are inexpensive optical sources (column 3, lines 42-45).

7. Claims 2, 5, 6, 8, 12, 13, 16, 18-20 and 22-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Standard Telephones and Cables Public Limited Company in view of Fukasawa et al (US 5,715,521).

Regarding claims 2, 5, 8, 12, 13, 16, 18, 19 and 22-27, Standard Telephones and Cables Public Limited Company [Standard] discloses a method of transferring an electrical signal from a first terminal on an optical fiber to a second terminal. An electrical signal is spread using CDMA (column 1, lines 37-50). The modulation technique used is sometimes called pseudo-noise modulation at the transmitter a modulated RF carrier is used (column 1, lines 51-62). The physical transmission path is an optical fiber and the signal is transmitted on this optical fiber (column 3, lines 9-11). At the receiver, the incoming RF signal is passed through an identical balance modulator driven from an identical code generator (column 2, lines 79-93). Prior to the demodulation step, the optical signal will be converted back to an electrical signal so

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the demodulation can take place. The step of demodulation, demodulates the signal and despreads the signal to recover the original electrical signal in the receiver.

Standard does not disclose the step of adding a control signal to the modulated electrical signal before transmission of the signal. Fukasawa discloses adding a control signal to the modulated signal before transmission (figure 1 and column 2, line 51 to column 3, line 7). It would have been obvious for one of ordinary skill in the art at the time of the invention to combine the step of adding a control signal to the modulated signal to the transmission and receiving system of Standard. The control signal is a synchronization signal which helps to ensure proper synchronization of the transmitted signal with the transmission and receiving system. The synchronization signal will be extracted at the receiver to ensure the synchronization will be maintained.

Regarding claims 6 and 20, Fukasawa discloses the synchronization signal generator outputs a base band signal (column 3, lines 35-39).

Regarding claims 7 and 21, the above combination does not disclose the control signal is modulated using TDMA. However it would have been obvious for one of ordinary skill in the art at the time of the invention to use TDMA to modulate the control signal. It is advantageous to reserve a time slot for the control information because it will be easier to extract the synchronization information in the receiver than having to despread the signal to extract the synchronization information and then despread the

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signal again to extract the data. The circuitry will be minimized by not requiring the components to despread the signal the second time.

8. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Standard Telephones and Cables Public Limited Company (GB 2 125 253) in view of Pepper et al (US 5,909,279) further in view of Fukasawa et al (US 5,715,521).

Regarding claim ⁴ ~~3~~, Standard Telephones and Cables Public Limited Company [Standard] discloses a method of transferring an electrical signal from a first terminal on an optical fiber to a second terminal. An electrical signal is spread using CDMA (column 1, lines 37-50). The modulation technique used is sometimes called pseudo-noise modulation at the transmitter a modulated RF carrier is used (column 1, lines 51-62). The physical transmission path is an optical fiber and the signal is transmitted on this optical fiber (column 3, lines 9-11). At the receiver, the incoming RF signal is passed through an identical balance modulator driven from an identical code generator (column 2, lines 79-93). Prior to the demodulation step, the optical signal will be converted back to an electrical signal so the demodulation can take place. The step of demodulation, demodulates the signal and despreads the signal to recover the original electrical signal in the receiver.

Standard does not disclose using the modulated carrier signal for modulating a monochromatic light wave to be transmitted on the optical fiber. Peppers discloses

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using white light in optical fibers. It would have been obvious for one of ordinary skill in the art at the time of the invention to use white or monochromatic light in optical fibers since they are inexpensive optical sources (column 3, lines 42-45).

The above stated combination does not disclose the step of adding a control signal to the modulated electrical signal before transmission of the signal. Fukasawa discloses adding a control signal to the modulated signal before transmission (figure 1 and column 2, line 51 to column 3, line 7). It would have been obvious for one of ordinary skill in the art at the time of the invention to combine the step of adding a control signal to the modulated signal to the transmission and receiving system of the combination stated above. The control signal is a synchronization signal which helps to ensure proper synchronization of the transmitted signal with the transmission and receiving system. The synchronization signal will be extracted at the receiver to ensure the synchronization will be maintained.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Horiuchi et al (US 5,877,878) discloses a repeater system which converts a received signal to an electrical signal, conducts inference elimination steps and converts the signal to a spread spectrum optical signal for transmission on an optical fiber (column 1, line 21 to column 2, line 59) and Wong et al (US 5,370,114)

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discloses advantages of using monochromatic light as an optical source for optical fiber transmission.

Contact Information

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231

or faxed to:

(703) 872-9314, (for formal communications intended for entry or for informal or draft communications, please label "PROPOSED" or "DRAFT")

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA., Sixth Floor (Receptionist).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin Burd, whose telephone number is (703) 308-7034. The Examiner can normally be reached on Monday-Thursday from 9:00 AM - 5:00 PM. The examiner can also be reached on alternate Friday.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 305-4700.

Kevin M. Burd

Kevin M. Burd
PATENT EXAMINER
December 6, 2001


CHI PHAM
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600
12/14/01

Attachment for PTO-948 (Rev. 03/01, or earlier)

6/18/01

The below text replaces the pre-printed text under the heading, "Information on How to Effect Drawing Changes," on the back of the PTO-948 (Rev. 03/01, or earlier) form.

INFORMATION ON HOW TO EFFECT DRAWING CHANGES

1. Correction of Informalities -- 37 CFR 1.85

New corrected drawings must be filed with the changes incorporated therein. Identifying indicia, if provided, should include the title of the invention, inventor's name, and application number, or docket number (if any) if an application number has not been assigned to the application. If this information is provided, it must be placed on the front of each sheet and centered within the top margin. If corrected drawings are required in a Notice of Allowability (PTOL-37), the new drawings **MUST** be filed within the **THREE MONTH** shortened statutory period set for reply in the Notice of Allowability. Extensions of time may NOT be obtained under the provisions of 37 CFR 1.136(a) or (b) for filing the corrected drawings after the mailing of a Notice of Allowability. The drawings should be filed as a separate paper with a transmittal letter addressed to the Official Draftsperson.

2. Corrections other than Informalities Noted by Draftsperson on form PTO-948.

All changes to the drawings, other than informalities noted by the Draftsperson, **MUST** be made in the same manner as above except that, normally, a highlighted (preferably red ink) sketch of the changes to be incorporated into the new drawings **MUST** be approved by the examiner before the application will be allowed. No changes will be permitted to be made, other than correction of informalities, unless the examiner has approved the proposed changes.

Timing of Corrections

Applicant is required to submit the drawing corrections within the time period set in the attached Office communication. See 37 CFR 1.85(a).

Failure to take corrective action within the set period will result in **ABANDONMENT** of the application.